W5YI

National Volunteer Examiner Coordinator

REPORT

Up to the minute news from the world of amateur radio, personal computing and emerging electronics. While no guarantee is made, information is from sources we believe to be reliable. May be reproduced providing credit is given to The W5YI Report.

Fred Maia, W5YI, Editor, P.O. Box 565101, Dallas, TX 75356-5101

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Vol. 12, Issue #10 $1.50 PUBLISHED TWICE A MONTH **May 15, 1990**

Harrison Imprisoned, Fined for Mail Fraud

The curtain has come down on the Michael Harrison story - at least for some time. It all started during the Fall of 1988 when Harrison, WB2PTI, 37, of Oceanside, New York, placed full page ads in *73 Magazine* declaring that the defunct Atlas and Dentron Radio Companies were back in the ham radio equipment business at two different Long Island, New York, post office addresses. Smaller advertisments were placed in other ham publications.

The Atlas ad offered Uniden ten-meter transceivers at an impossible price. Dozens of amateurs sent money to Harrison and received nothing in return. Uniden disavowed any knowledge of Atlas ...as did the original owners of Atlas and Dentron.

We alerted the Amateur Radio community to a possible scam in our Jan. 15, 1989, Report. Harrison called us on the phone and told us everyone would get their merchandise. A couple of weeks later, Harrison was arrested for Mail Fraud by the U.S. Postal Service and released on $25,000 bond.

Michael Harrison was indicted by a Grand Jury in the Eastern District of New York on fifty counts of Mail Fraud on August 28, 1989, when he failed to deliver the goods or return any customer funds.

Unbelievably, Harrison placed more mail order ads this past January which constituted a bail violation. He was ordered to court. When he failed to appear, Harrison was again arrested on February 14, 1990, and jailed. Harrison even attempted unsuccessfully to admit himself to a mental institution.

On February 26, 1990, Harrison pled guilty to five counts of Mail Fraud before Judge Mischler. Since there was to be no jury trial, we published the address of the Judge who would be sentencing Harrison and invited readers to write him. Many did and the judge threw the book at him!

On April 19, 1990, Judger Mischler sentenced Harrison to twenty-one months in prison, a $125,000 fine, full restitution, plus interest to each victim, and three years of probation after he completes his jail term. Additionally, Harrison must pay $1,210.00 month to the Bureau of Prison for his confinement costs. Harrison has also agreed to return any equipment he received from his victims. As a condition of his sentence, Harrison must make full restitution within five years including interest.

The United States Probation Department, Long Island Courthouse, Uniondale Avenue and Hempstead Turnpike, Uniondale, New York 11553 will supervise the restitution. Case No. is CR89-00575

The entire "package" amounts to several hundred thousand dollars that Harrison must eventually come up with in addition to the imprisonment. It is doubtful that he can comply ...so the story apparently is not over yet.

We also received a nice thank you letter from Inspector Martin T. Biegelman of the U.S. Postal Service, Hicksville, New York, for the assistance we provided him in the successful investigation and prosecution of Michael Harrison.

THE W5YI REPORT is published twice a month on the first and fifteenth of the month - P.O. Box # 565101; Dallas, Texas 75356-5101 - Phone: (817) 461-6443. SUBSCRIPTION RATE: (U.S. Canada and Mexico) One Year (24 Issues)$23.00 Two Years($42.00) Three Years(59.00) Foreign Subscriptions Via Air Mail;$37.00 per year Worldwide. (Payment may be made via Check, Money Order, VISA or MasterCard in U.S. funds)

DAYTON SPOTLIGHTS DSP

Through lectures and product introductions, this year's Dayton Hamvention acquainted a lot of hams with *Digital Signal Processing (DSP),* a technology well entrenched in the commercial communications world ...and destined to change the face of the amateur hobby in the years to come.

DSP involves the use of special microprocessors to digitize (convert into numbers) analog signals, manipulate the numbers for a desired purpose, and then convert them back into analog signals (voice, CW, images) that the human brain can comprehend. The processing is done with software instead of filter parts like inductors or capacitors.

DSP is used throughout the long-distance telephone network; in radio and TV broadcasting; in facsimile, medical and military applications. The cellular telephone industry in Europe and the U.S. is starting a conversion to a DSP foundation. Spread-spectrum and Compact Disk products are based on DSP. (Even the Teddy Ruxpin bear has a talking DSP chip inside!)

In Amateur Radio, DSP will have applications numerous enough to boggle the mind. Some immediate uses include better HF modems for packet and RTTY transmission; special modems for satellite work; and programmable filters and noise cancellers for CW and SSB operating. Your PC could become a spectrum analyzer with a DSP board, at a price far lower than commercial analyzers. The Kenwood TS-950SD transceiver has a DSP module that enhances transmit performance.

DSP-based direction finders could allow your repeater to output screen maps of the source of any received signal -- in real time! DSP can generate and recognize speech and can help us realize a true digital voice packet network.

We got the feeling that DSP is really imminent when *Dayton Technical Excellence Award* winner ***Bob McGwier/N4HY*** in the Packet Forum spoke of "writing" modems for various ham applications. No longer will modems and filters be assembled from electronic components – they will be computer programs that are written just like any other program.

The programs may be downloaded into DSP units from disk, or stored on plug-in ROM chips that can be updated whenever some improvement comes along. *Tucson Amateur Packet Radio* (TAPR) and *AMSAT* are deep into development of DSP boxes and plug-in PC boards to be offered to the amateur community at large.

Why DSP?

N4HY described the background of his DSP program: "The reason TAPR, AMSAT, and the others want DSP is that we just got sick of buying new modems. We needed to do something that would decrease your long term expenditures for modems. If you do it in DSP, where the modems are software-based, you would not have to buy a new modem every time a new widget happens.

"As you know, 300 bits per second is just not good enough for HF with the FSK that is being used now. If you want to have a good modem for HF, it is practically impossible to do it any other way than with DSP, period. If you want 600, 1200, 2400 bits per second, you must do it with DSP. Now there are implementations of this in military use. But hams are not going to spend $50,000 just to run 2400 bits per second on HF.

"Well, in ham radio we could pay a few hundred dollars for a DSP box or plug-in card for your computer, one that is open-architecture and freely available for whoever wants to experiment with it. The ARRL has its HF modem and protocol design contest. Those modems could be put on the TAPR/AMSAT TMS320C25 card and probably on DRSI and AEA cards as well. We are about done with the schematics and will have a prototype for the TAPR/AMSAT DSP card this summer.

"The idea is that you want to be able to do satellites, packet, 9600 bits per second, slow-scan TV, weather satellite, on and on and you don't want to pay $1200 for a Robot SSTV unit and a few hundred dollars for a PSK modem or a AO-13 demodulator. You can do it all with one box. The entry price is going to be several hundred dollars. AEA has announced that the amateur list price for its DSP box will be $760.00. It is not cheap. The intent is for the TAPR/AMSAT board to sell for under $300 as a kit."

AEA DSP introduction

AEA unveiled its DSP-1232 and 2232 multi-mode DSP-based data controllers at Dayton, making the brash claim that these units have the "hardware for all available modes built-in now and forever." The

WOULD YOU LIKE TO BECOME A VOLUNTEER EXAMINER? under "The W5YI Report" Program? If so, please send a copy of

"I am a currently licensed Extra Class amateur radio operator and wish to be a volunteer examiner. I have never had my station or operator license revoked or suspended. I do not own a significant

1232 has two switchable ports and the 2232 has two simultaneous ports. The units connect between the radio and computer as with the PK-232. Software is in EEPROM or can be downloaded into RAM from disk.

In addition to PACSAT, AO-13 and AO-15 modems and modems for a variety of RTTY shifts, the units will transmit and receive WEFAX and WEFAX-APT and SSTV images, will directly print HF monitored FAX signals to dot-matrix printers, and will decode time- and frequency-division multiplex signals (TDM and FDM) often found on the shortwave bands. The 1232 and 2232 include all of the features of the PK-232 including CW, packet controller, mailbox and TCP/IP protocol compatibility and 300 baud HF modem. The DSP units use a faster microprocessor than the Z80 in the PK-232.

New DSP magazine

We were impressed by ***HamPute,*** a magazine for amateur DSP that made its debut at Dayton. According to publisher ***Dick Blasco/NX6R,*** "Amateur Radio is never going to be the same again. DSP will do for us what the microprocessor has done for the rest of the planet. ...At last we will be freed from the 'Want a new feature? Buy a new radio' juggernaut. We will trade in our soldering irons and electric drills for keyboards and soft panels. We will be able to experiment with, and modify our equipment again. Make a mistake? Just hit the reset button and all is like new." NX6R says that DSP will bring a new era where "hams will be hams again."

The first issue of *HamPute* investigates the DSP features of the Kenwood TS-950SD. It also offers an outstanding tutorial on DSP sampling that streamlines the math and theory for amateur use. The publication is $10.00 per year (bimonthly) from *HamPute, P.O. Box 6797, Auburn CA 95604.*

High-speed RF

Of course, the ability to send digital information from a DSP source won't amount to much if we are still limited to 1200 bps VHF packet. TAPR volunteers are busy developing the TAPR packetRADIO, a crystal-controlled 2 meter transceiver optimized for 9600 bps operation. Six assembled prototype boards (one of them an optional internal TNC) were displayed at the TAPR exhibit booth.

After alpha units are built, as many as 100 beta units -- all kits -- will be placed with participants for "shake and bake" tests. These beta units will cost between $250-350.00. Following beta tests, TAPR anticipates licensing the design to manufacturers who have expressed strong desire to sell the packetRADIO in assembled form, according to ***Harold Price/NK6K.*** The four-channel, 25 W radios will have a keyup time of less than one millisecond, and a 3 millisecond time to carrier detect at 9600 bps (15 ms. @ 1200 bps).

At the Packet Forum, ***Bdale Garbee/N3EUA*** observed, "We talk about 9600 bits per second and people say, 'Why do I want that? I can't type that fast.' There are two separate reasons for going fast. The first is high data volumes. In this category are things like digital voice, digital video and file and bulletin transfer. We need fast links in order to push through large volumes of data in reasonable amounts of time.

"Another reason is to have reasonable response times for interactive applications. These are any applications where you have to sit and wait for packets to go out on the channel and come back: database lookup of callsigns, emergency response, remote log-in to machines that respond just like if the machine is sitting next to you."

The packetRADIO is expected to be available from manufacturers next year. TAPR is not yet certain whether it will offer the unit to the general ham community as a kit or at what price.

HAM RADIO MAGAZINE TO END

At Dayton, *Ham Radio Magazine* publisher ***Skip Tenney/W1NLB*** and CQ Magazine publisher ***Dick Ross/K2MGA*** made the startling announcement that CQ Communications Inc. has acquired Ham Radio Magazine and the Ham Radio Bookstore. CQ Communications publishes CQ Magazine, Popular Communications, Modern Electronics, Electronic Servicing and Technology, and the buyer's guides and Spanish editions of CQ.

According to Tenney, the last issue of Ham Radio will be June 1990. Existing subscriptions to Ham Radio will be served on an issue-for-issue basis with CQ. Subscribers to Ham Radio who already subscribe to CQ will be able to extend their CQ subscriptions or obtain other titles in the CQ publications group.

W1NLB will devote full time to his computer consulting business. Staying on with CQ Communications will be ***Craig Clark/NX1G*** and ***Terry Northup/ KA1STC.*** Clark will be involved at a corporate level and with the Ham Radio Bookstore operation. Northup will continue as a book editor and with the development of a series of high-tech quarterlies for Amateur Radio

INTERESTING PRODUCTS AT DAYTON

Ten-Tec introduced its Argonaut II and Delta II HF transceivers. These are basically the same radio; the Argonaut version is QRP with .5-5 W RF output. The Delta is 20-100 W. Transmits 160-10 meters and receives 100 kHz-30 MHz. LCD display, 31 non-volatile memories, flexible dual VFOs, digitally-controlled passband tuning.

Kantronics introduced the Data Engine TNC to support speeds in excess of 56 kbaud (ships with 1200 baud modem). The Kantronics Telemetry Unit connects weather sensors to any TNC; just connect and receive temperature or other weather readings. Kantronics has a factory BBS evenings and weekends at 913/842-4678.

QRZ industries displayed its line of low-cost natural voice digitizers. These small boards can store and play back up to 100 seconds of high-quality voice and are highly programmable with switches, keypads, timers and external software or repeater controllers. They may be used as IDers, beacons, "voice keyers" for contests. *(QRZ, PO Box 160, Piedmont SC 29673, 803/269-0000.*

Grace Communications announced the PackeTen high speed, multi-port packet switch supporting up to 4 MB/sec. *(Grace, 623 Palace St., Aurora IL 60506, 708/897-9346)*

Didah Publishing demonstrated "From Beverages Thru Oscar", the world's largest database on Amateur Radio. FBTO is a 52,880 reference volume to 80 years of published articles on all aspects of radio, available on microfiche, hard copy and PC disk formats. The editor is Rich Rosen/ K2RR, professional engineer and former Ham Radio Magazine editor. The search software is fast and very easy to use. *(Didah Publishing, PO Box 7368, Nashua NH 03060.)*

AEA announced a new LA-30 1200 watt HF Linear Amplifier for 160-10 meters. [Due to FCC rules, licensed amateurs *only* will be given instructions on how to modify the amplifier for 10 meter operation.] AEA also debuted a new LPF-30 Low Pass Filter and a Fast Scan Television Transceiver to operate in the 900-930 MHz range. *(AEA, P.O. Box 2120, Lynnwood, WA 98036)*

MARCH VE PROGRAM STATISTICS

March	***1988***	***1989***	***1990***
No. VEC's	****18***	****18***	****18***
Testing Sessions	***438***	***516***	***578***
VEC	*1988*	*1989*	*1990*
W5YI	30.1%	34.9%	40.1%
ARRL	43.4%	36.6	39.8
CAVEC	4.8	7.0	4.7
DeVry	6.4	7.0	4.5
Others	16.3	14.5	10.9
Year-to-Date Sess:	***1140***	***1270***	***1461***
Elements Administ.	***10252***	***10441***	***11629***
VEC	*1988*	*1989*	*1990*
ARRL	51.2%	49.7%	45.7%
W5YI	21.5	26.8	34.1
CAVEC	5.6	7.2	5.1
DeVry	4.0	4.9	3.0
Others	17.7	11.4	12.1
Year-to-Date Elem.	***23052***	***23377***	***26329***
Applicants Tested	***6088***	***6197***	***6945***
VEC	*1988*	*1989*	*1990*
ARRL	50.4%	46.7%	45.6%
W5YI	23.1	26.0	34.2%
CAVEC	5.0	6.4	4.4
DeVry	4.0	5.1	3.6
Others	17.5	15.8	12.2
Year-to-Date Tested	***13504***	***13821***	***15648***

March	***1988***	***1989***	***1990***
Pass Rate - All	62.2%	61.7%	61.6%
Pass Rate - W5YI	53.4%	58.4%	60.0%
Applicants/Session	13.9	12.0	12.0
Appl./Session W5YI	9.3	9.7	10.0
Elements/Applicant	1.7	1.7	1.7
Sessions Per VEC	24.3*	28.7*	32.1*

Administrative Errors by VE's/VEC's

March	**1988**	**1989**	**1990**
Defect. Applications	1.3%	0.6%	1.3%
Late Filed Sessions	1.6%	1.7%	0.5%
Defective Reports	2.3%	2.5%	0.9%

***Note:** The FCC previously considered ARRL, W5YI and DeVry to be 13 VEC's each since VEC's initially were appointed on a regional basis. Since any VEC may now coordinate examinations in any region, the FCC reduced the number of VEC Regions (62) to VEC Organizations (18). We have adjusted 1988 and 1989 figures to reflect this change.

[Source: Personal Radio Branch/FCC; Washington, D.C.]

● The Dayton banquet speaker was country music star ***Ronnie Milsap/WB4KCG.*** Blind since birth, Ronnie told of how his interest in electronics started with disassembling a radio that was the focal point of his family home when growing up in the Smoky Mountains. Repeatedly punished for taking it apart, he decided to learn how it worked. In later life as a musician playing nightclubs, he studied for amateur exams in between sets. He has accumulated over 30 number-one singles, several gold and platinum albums and six Grammy awards. Ronnie Milsap's story of overcoming adversity is told in a forthcoming autobiography.

● The current issue of Forbes magazine has an eye-opening article on the ***invention of spread spectrum modulation.*** It seems the daughter of a prominent Viennese banker, ***Hedwig Kiesler,*** patented an antijamming radio in 1940 and gave it to the U.S. government as her contribution to the war effort. Three years earlier she had fled Austria out of her dislike for the Nazis and Hitler. The frequency hopping technolgy she thought up would keep radio controlled torpedoes from being intercepted or jammed. The technology was simple. A seemingly random series of radio signals, hopping from frequency to frequency at split-second intervals would be picked up by a sychronized receiver. Kiesler learned about weapons design from one of her husbands who was an arms manufacturer. Strangely, the United States never saw the value of the technology and it was never used in World War II. Sylvania independently developed the same concept in 1957 and spread spectrum was used in 1962 during the blockade of Cuba. It is now the principal means of insuring secure military communications. Kiesler's patent expired without her ever receiving a cent in royalties although spread spectrum is now used all over the world. What is particularly interesting is the stage name of Hedwig Kiesler. It was Viennese actress and sex symbol, ***Hedy Lamarr*** who developed spread spectrum with her American composer, George Antheil. Antheil, who credits the idea soley to Lamarr, refined the synchronization scheme based on the operation of a player piano. The number of frequencies proposed in the patent - 88 - matches the number of keys on a piano and specifies the use of slotted piano rolls to synchronize the jumps in frequency in the transmitter and receiver. *(Forbes Magazine, 5/14/90, pages 136-138.)*

● The deadline for receipt of camera-ready papers for the Joint ***ARRL/CRRL Computer Networking Conference*** is August 6, 1990. Those wishing to submit a paper for this ninth conference are urged to obtain an author's package from the League. *(ARRL, 225 Main St., Newington, CT 06111)* Topics will include, but are not limited to, HF packet investigations, packet satellites, packet services ...and future systems. The 1990 Networking Conference will be held in London, Ontario, Canada on Sept. 22.

● We received a note from QCWA president emeritus ***Leland Smith, W5KL,*** commenting on our May 1st write-up about the ***FCC celebration of WWII radio history.*** He advises ***George Sterling is W1AE*** - a call he was originally issued in 1912 and which he now holds. Sterling is also the only FCC Commissioner to hold an amateur license. Leland presented George with his QCWA 75-year plaque in Portland, Maine three years ago - at a luncheon held directly across the street from the building where he took his original amateur test in 1912!

● ***FCC's Johnny Johnston, W3BE,*** advised all VECs that 49,992 new and upgraded amateur radio (Form 610) applications were processed by the FCC in fiscal year 1989.

Novice Program:	20,047	40.2%
VE/VEC System:	29,817	59.2%
(Technician	*16,532*	*33.2%)*
(General	*5,479*	*11.0%)*
(Advanced	*4,793*	*9.6%)*
(Extra	*3,013*	*6.0%)*
Total:	49,864	100%

While the VECs reported examining 51,992 persons, the number of persons examined under the Novice program is unknown. Had the 20,047 passed Novice examinations been administered under the VEC System, the workload to the VEC System would have increased by more than 67%. The 36,579 Novice and Technician license applications processed by Gettysburg represents 73.4% of the Gettysburg new/upgrade workload.

● In responding to a Congressional inquiry, FCC Private Radio Bureau Chief, ***Ralph Haller, (N4RH),*** wrote Senator Ted Stevens on April 3rd that "...the Commission has taken no action that would affect the ability of mariners, or anyone else, to use amateur stations interconnected with the public telephone system (phone-patching) to make telephone calls." In fact, Haller said, the Rules concerning international third-party traffic have recently been relaxed to permit messages to *amateurs* in countries where third party traffic is mormally not allowed.

● The ***Japan Amateur Radio League*** has installed a ham station at the site of the ***International Garden and Greenery Exposition*** in Osaka. Some 20 million people will visit this year's Flower Expo. A special commemorative QSL is available to those who work 8J90XPO which is now in operation. JARL also announced that its ***Ham Fair 1990*** will be held at the New Hall of the Tokyo International Trade Center in Harumi, Tokyo from August 24-26. Featured will be a flea market, display of vintage transmitters, CW contests, technical forums, do-it-yourself workroom, best home brew equipment contest ...and more. Ham Fair, the largest ham convention in the world, attracted a total of 59,000 vitisors last year. The ***All Asian DX Contest*** annually conflicts with the Ham Fair and JARL will change the date of the CW portion in 1991 to the third Saturday of June. (Phone section: first Saturday of September.) The contest this year, however, will be held as in previous years.

● ***You'll be hearing some VEØ prefixes*** on the amateur airwaves soon. VEØ calls are to be assigned to Canadian amateur stations permanently installed on ships and are for use in international waters only (beyond the Canadian 200 mile limit.)

AMATEUR RADIO CALL SIGNS

...issued as of the first of May 1990:

Radio District	Gp."A" Extra	Gp."B" Advan.	Gp."C" Tech/Gen	Gp."D" Novice
0 (*)	AA0AZ	KF0KC	N0LVA	KB0GPB
1	WF1J	KC1UO	N1HOA	KA1VOO
2	WY2C	KE2TJ	N2KPW	KB2JYY
3	NZ3I	KD3SC	N3IAV	KA3WET
4 (*)	AB4VB	KN4ID	N4YWA	KC4QGP
5 (*)	AA5RQ	KI5FA	N5QJH	KB5MNR
6 (*)	AA6VL	KK6JU	N6YRK	KC6KPM
7 (*)	AA7EM	KG7DG	N7OQX	KB7KPA
8 (*)	AA8BA	KF8GC	N8MEX	KB8JTR
9	WR9N	KE9WJ	N9JOA	KB9EQI
N. Mariana Is.	AH0H	AH0AF	KH0AM	WH0AAL
Guam	KH2M	AH2CG	KH2EJ	WH2AMM
Johnston Is.	AH3C	AH3AD	KH3AC	WH3AAE
Midway Island		AH4AA	KH4AD	WH4AAH
Hawaii	(**)	AH6KJ	NH6WL	WH6CHT
Kure Island			KH7AA	
Amer. Samoa	AH8D	AH8AD	KH8AI	WH8AAZ
Wake Wilkes Peale	AH9A	AH9AD	KH9AE	WH9AAH
Alaska	(**)	AL7LZ	NL7TW	WL7BYC
Virgin Islands	NP2F	KP2BT	NP2DT	WP2AHB
Puerto Rico	(**)	KP4QQ	WP4XS	WP4IYE

CALL SIGN WATCH: * = The "zero" and 8th call districts now have joined the Extra Class "AA" prefix club. All 2-by-1 format call signs have been assigned in the 4th, 5th, 6th, 7th, 8th and "0" radio districts where 2-by-2 format call signs from the AA-AK prefix block are now being assigned to Extra Class amateurs.

** = All Group "A" (2-by-1) format call signs have been assigned in Hawaii, Alaska and Puerto Rico. Group "B" (2-by-2) format call signs are assigned to Extra Class amateurs when Group "A" are depleted.

Group "C" call signs will first run out in the 4th and 6th call districts where there are only 727 and 899 1X3 calls left - about enough for four months! [Approximately 200 "N" call signs are issued a month.] The Technician/General class will then be issued Group "D" (2X3 format) call signs.

[Source: FCC, Gettysburg, Pennsylvania]

AMATEUR CALL SIGN ASSIGNMENT SYSTEM

The FCC issued a Public Notice on April 19 explaining how it issues call signs to amateur radio stations. A new call sign is sequentially selected from the alphabetized regional-group list for the licensee's operator class and mailing address. Each call sign has a one or two letter prefix and a one, two or three letter suffix separated by a numeral indicating the geographic region. Certain combinations of letters are not used. When the call signs in any regional-group list are exhausted, the selection is made from the next lower group.

The groups are:

Group A Call Signs for Extra Class Operators:

Regions 0-9: K,N, W and 2 letter suffix; 2 letter prefix with first letter A, K, N or W and 1 letter suffix; and 2 letter prefix with first letter A (second letter A through K) and 2 letter suffix.

Region 11: Prefix AL, KL,NL, WL and 1 letter suffix.

Region 12: Prefix KP, NP, WP and 1 letter suffix.

Region 13: Prefix AH, KH, NH, WH & 1 letter suffix.

Note: Region 11 is Alaska with a geographical designator of "7"; Region 12 includes all stations in the Carribean, geographical designator 2 or 4; and Region 13, the pacific islands including Hawaii , (0, 2, 3, 4, 6, 7, 8, and 9).

Group B Call Signs: [Advanced Class]

Regions 0-9: Two letter prefix with first letter K,N, W and two letter suffix.

Region 11: Prefix AL and two letter suffix.

Region 12: Prefix KP and two letter suffix.

Region 13: Prefix AH and two letter suffix.

Group C Call Signs: [General and Technician]

Regions 0-9: Prefix K,N, W and 3 letter suffix.

Note: FCC is only assigning the "N" prefixes and will not issue unassigned K or N 1X3 format call signs. Instead Group D 2X3 are next issued.

Region 11: Prefix KL, NL or WL and 2 letter suffix.

Region 12: Prefix NP or WP and 2 letter suffix.

Region 13: Prefix KH, NH or WH and 2 letter suffix.

Group D Call Signs: [Novice Class]

Regions 0-9: Prefix KA through KZ or WA through WZ and 3 letter suffix.

Region 11: Prefix KL or WL with 3 letter suffix.

Region 12: Prefix KP or WP with3 letter suffix.

Region 13: Prefix KH or WH with 3 letter suffix.

The FCC added: "No request for a specific call sign is granted. A call sign is only changed when the licensee requests a change by application (FCC Form 610, Item 2E). Each change in call sign is processed as a new call call sign (with a new 10 year term). A station is reassigned its same call sign upon renewal or modification of its license, unless a call sign change is requested. Because a call sign can be so reassigned only when the licensee information resides in the com-puter data base, the information is retained in the data base for two years beyond expiration to provide a grace period during which persons who un-intentionally fail to renew their licenses have additional time to do so. An application filed beyond the grace period is processed for a new license because the record has been deleted from the data base."

[Source: FCC, Washington, DC]

W5YI REPORT

National Volunteer Examiner Coordinator

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May 15, 1990

SPACE PACKETS FROM SAREX

NASA reports that the launch of Space Shuttle Columbia on the STS-35/Astro-1 mission remains targeted for May 16 (as always, be alert for schedule changes). The official launch date will be set at a Flight Readiness Review to be held May 7-8.

Columbia will carry the Shuttle Amateur Radio Experiment (SAREX), operating as the amateur station of astronaut Dr. Ron Parise/WA4SIR. The station includes a GRiD MS-DOS laptop computer running LAN-LINK, the popular packet terminal program by Joe Kasser/G3ZCZ. The GRiD is connected to a Tasco/Heath HK-21 Pocket Packet controller. This cigarette-pack size TNC will run special software written by AMSAT's ***Tom Clark/W3IWI*** and TAPR's ***Howie Goldstein/N2WX.***

The Motorola hand-held transceiver will feed a window-mount antenna on the spacecraft's side. (A slow- and fast-scan ATV module, demonstrated at Dayton, will be connected to the system in the future STS-37 flight.)

A key benefit of this automated system is that WA4SIR-1 can operate under automatic control when Dr. Parise is engaged in his regular duties. In this "robot" mode (expected to be active during all passes over the U.S.) the station will conduct regular QSOs and give each a serial number.

QSOs - SWLs - Bulletins

Successful two-way contacts with WA4SIR-1 will be reported by call and serial number in the QRZ beacon to be transmitted at regular intervals. The log will be retained in the TNC and also dumped to disk periodically during the flight. The log ignores dupes and SSIDs. For example, contacts with W5YI and W5YI-1 will be given different serial numbers but only the first contact will be logged.

You will not have to work the shuttle in order to get a card! SAREX will also report stations that it heard (but not worked), in another portion of the QRZ beacon. Callsigns heard will not have individual serial numbers, but each QRZ beacon will have its own serial number. To get one of the "SWL" cards, amateurs will have to provide a hard-copy list of the beacon in which their call appears.

SAREX will also transmit a "Metabeacon", consisting of I (Information) packets addressed to QST. These will feature shuttle bulletins up to 1.7 KB in length.

Tune carefully

ALL SAREX OPERATIONS WILL BE SPLIT-FREQUENCY! Do not call WA4SIR on the same frequency which you hear him! The main pair for both voice and packet is 145.55 (Shuttle transmit) and 144.95 (Shuttle listen). This is known as the "primary" pair of frequency Group 1.

If WA4SIR experiences too much interference on the primary offset pair, he may switch to one of the secondary receive frequencies corresponding to the Group transmit frequency you will hear him on. Group 4 is intended for Europe and Africa.

Planned Frequencies (MHz) for STS-35

Group	*Shuttle TX*	*Shuttle RX*	*Designation*
1	145.55	144.95	Primary
		144.91	Secondary #1
		144.97	Secondary #2
2	145.51	144.91	Primary
		144.93	Secondary #1
		144.99	Secondary #2
3	145.59	144.99	Primary
		144.95	Secondary #1
4	145.55	144.95	Primary
		144.70	Secondary #1
		144.75	Secondary #2
		144.80	Secondary #3
		144.85	Secondary #4

Changes to this information, Keplerian elements, schedules and NASA/Shuttle audio will be available as usual on key ham stations:

WA3NAN Goddard Space Flight Center (Greenbelt, Md.) 3.860 7.185 14.295 21.395 28.650 147.45 (FM)

W5RRR Johnson Space Center (Clear Lake City, Tex.) 3.850 7.227 14.280 21.350 28.495 146.64 (FM)

W6VIO Jet Propulsion Lab (Pasadena, Calif.) 3.840 21.280 224.04 (FM)

W6FXN (L.A., Calif.) 145.46 (FM)

Also, W1AW at the ARRL in Newington, CT. will expand its schedule to transmit SAREX news as

received from amateurs atthe Johnson Space Center. Tune to these stations for thelatest on the most exciting Shuttle operation yet! *(Tnx W3XO and W1XT)*

FCC ENFORCEMENT REPORT

The FCC isn't letting up in its latest campaign to stop illegal activities on the air. This set of enforcement actions includes lid operations in the amateur, marine andeven satellite bands.

Robert Fizzell/W6UBC of Beaty, Oregon and ***Richard Young/W6UGH*** of Los Angeles were each fined $1,000 for willful interference with amateur communications. The investigation was prompted by complaints about repeated jamming on 40 meters.

FCC monitors observed that Fizzell and Young "consistently operated adjacent to the operations of other amateurs and within the bandpass of state of the art receivers." Apparently, when the affected amateurs changed frequency, Fizzell and Young followed to operate adjacent to them again.

George Muchin of Redmond Plumbing in Washington State was fined $1,500 for unauthorized operation of a marine transmitter on 156.575 MHz. The Commission noted that its Seattle office acted on a tip from a local radio amateur. Muchin's transmissions consisted of nonmarine-related business on marine channel 71. FCC staff used mobile RDF equipment to track the signal to a worker's truck and later to a residence.

Thomas Haynie has been indicted by a grand jury in Virginia, charged with three counts of intentional interference and three counts of unlicensed operation of a satellite uplink. Haynie was the operator on duty at the uplink station of the Christian Broadcasting Network in Virginia Beach at the time of the incidents. CBN transmits to cable systems and home satellite dishes.

The indictment alleges that on Sept. 6, 1987, SATCOM IV and SPACENET I were interfered with on three separate occasions by video text messages that overrode the programming carried on the satellites.

The FCC said that the indictment is the result of a lengthy investigation that started immediately after the interference occurred. The United States Code provides penalties of up to 10 years in prison and fines of up to $250,000 for intentional interference with a communications satellite.

COMPUTER VIRUSES BY RADIO STUDY

The Army Communication Electronics Command has proposed to award a grant of up to $50,000 to a small business for initial study of Topic A90-217, "Computer Virus Electronic Counter Measures" (ECM). The effects of the viruses can include information disruption, denial, and deception, and effects on executable code in processors, memory and storage among others. Efforts should be focused on RF transmission as a method to introduce viruses, according to the Department of Defense (DoD).

The grant is part of the DoD Small Business Innovation Research Program (SBIR), which makes financial grants for exploratory projects that meet certain criteria. Most of the projects are in munitions, materials, computing and communications research. For general information on the SBIR program, contact Bob Wrenn, OSD/SADBU, U.S. DoD, Pentagon Rm. 2A340, Washington DC 20301-3061, 202/697-1481.

ARRL WITHDRAWS DATA PETITION

Amid heated opposition from members of the RTTY community within Amateur Radio, the ARRL on April 19 withdrew its controversial FCC petition RM-7248 that proposed to change the data communications rules in §Part 97.

As reported in our last issue, RM-7248 asked the FCC to allow automatic control of RTTY and other data modes such as packet and AMTOR, including third-party message handling, in 10 KHz segments of each HF amateur band below 28 MHz and 20 kHz on 10 meters.

The petition was the result of experience with the experimental HF SKIPNET operation, whereby specially-authorized ham stations have handled traffic under automatic control. SKIP-NET started in 1987 when ARRL received Special Temporary Authority (STA) for the net from the FCC.

A committee of influential data-mode operators chaired by ***Dale Sinner/W6IWO*** of RTTY Journal coordinated the filing of numerous opposing comments at the FCC. We could not find any comments filed in favor of the League petition.

Besides disagreement with the conclusions presented by ARRL, many commenters believe that the League should have made more effort to communicate with amateurs before filing the petition. ***Philip Lennan/WV2V***, an attorney and member of the committee, wrote that ARRL "...has plainly defaulted in its obligation as a national association of amateur radio operators to consult, advise and inform its membership and the amateur radio community." ARRL allegedly gave the first notice of RM-7248 in a brief bulletin transmitted on W1AW around last Christmas.

Commenters said that the SKIPNET operation was not a success; that the ARRL apparently did not properly supervise and manage it; and that there is little if any connection between the STA operation and the radical actions requested in RM-7248. WV2V wrote that "The STA experiment did not operate on the frequency segments now being requested; nor did it conduct any communications at the higher speeds now desired; and did not utilize the higher transmitter power outputs now sought (by omission of any power restriction in the petitioner's filing)."

A typical concern in the comments is the ARRL proposal to move 40 meter RTTY, AMTOR and packet radio from its current customary segment of 7.080-7.100 MHz into 7.035-7.045 MHz, a highly congested CW band that includes various CW nets of long standing. Similar disruption in other HF bands was cited. For example, "Moving 20 meter automatic operation to 14.090-14.100 will cause a great deal of interference to many RTTY operators presently using this area of the spectrum," the committee wrote in a flyer distributed at Dayton.

"RM-7248's request for special frequencies specifically for a small special-interest group of amateurs is a dangerous precedent," the flyer said. "It is contrary to our 'gentlemen's agreements' [the informal separation of modes now used - Ed.] and is also contrary to the spirit of 'de-regulation'. The action would set a precedent where all other amateur special-interest groups might reasonably expect to be granted their own 'private' sub-bands."

The committee believes that the possibility of interference from automated stations to manned stations must be answered before rule changes are made. It also said that the difficult issue of automated third-party traffic must be carefully considered: "Manual screening of traffic before forwarding is time-consuming and odious. Blind automatic forwarding of all received text may be legally irresponsible. A compromise between these two extremes must be found."

The ARRL withdrawal letter, signed by counsel ***Chris Imlay/N3AKD,*** said that "reasonable minds may differ" about these matters and that the proceeding "represents something of a philosophical shift in conventional band planning for amateur HF operations." Imlay told the FCC that some of the comments filed present other possibilities which are "most useful and deserving of consideration."

The League asked the FCC to again renew the STA for automatic control after it expires in January of 1991 -- making it the fourth extension of this "temporary" SKIPNET operation.

The data committee believes the STA should be terminated, according to its brochure, which concluded with these words: "The ARRL is our organization and we request the right to be included in the decision making process for any petition that directly affects our use of the amateur radio spectrum."

FCC FORUM: HAMS HAVE US OUTGUNNED

FCC Personal Radio Branch chief ***John Johnston/ W3BE*** and analyst ***William Cross*** drove home the point at Dayton's FCC Forum that too many hams are filing too many petitions for the resources available. It was obvious that some of the petitions are repetitive or ill-researched and are unlikely to be granted, yet staff time is still required to study their implications and issue a decision.

"You have us outgunned," is how Cross put it. Amateurs still call and write asking for special callsigns, even though no the FCC has granted no special calls in 12 years. The FCC representatives read a tedious list of 18 pending petitions asking for reallocations, phone band expansions, VE changes, rule waivers, and new or modified privileges. The staffers did not offer specific opinions on most of the petitions. One exception: Prolific petitioner ***Karl Muller/W3UBQ*** (Fort Myers, FL) requests the FCC to convene a national conference to improve on-air operating.

"There is a device called a Wouff Hong," Cross deadpanned. "That device would serve the same purpose he is proposing now. There are only four of us to do all of this [petition] work, plus all of the other

work that is assigned our branch. Therefore, I ask that you do the research necessary before you shoot a petition off to us. And don't be surprised if many months go by before you know the disposition of your idea."

Another usurper of staff time is the incessant demand from hams for Commission attention to problems during contests. Cross said, "Contests began as soon as the third license was issued. The original contest was to see which one of the first two licensees would be the first to work the third licensee. This occurred at the same time as the first pileup. The only difference between then and now is that we have more contests, more contesters, and we use vapor cooling, hardline, aluminum and steel instead of spark gap and wire.

"We can measure contests easily. Monday morning, watch the telephone lines. If you had no idea that there was a contest on that weekend, you will find out that morning."

Q&A: FCC staff

Q: What is the FCC position on the pseudo-amateur operations on 25.9-28 MHz?

A: Those frequencies are allocated to various Government operations. People who operate there without a license are subject to the normal penalties. It is a known problem. Government users have certainly raised this issue within the Interagency Radio Advisory Committee. We have not heard of a solution yet.

Q: In the Communicator proposal, will I be able to renew my Novice license when it expires, or will I lose my Novice privileges?

A: You are grandfathered forever, and if you want to upgrade you get credit for the exams you have passed.

Q: Do you have a guesstimate of when the FCC might implement the Communicator license?

A: If it's something we can do with current resources, wethink that they can get up to speed in about a year from when the decision is made. If we have to go back to the drawing board or get more money, it might not be in our lifetimes (joking). Gettysburg tells us they've found some more glitches they will have to fix, that could delay implementation. We have to read all of your comments and they're coming in very fast. Some say "No Code No Way." Others ask for no-code only if you meet certain conditions which are certainly not within the scope of something we could do in a short period of time.

The previous two proceedings for a codeless license were generated by people who held very responsible positions in the Commission. They thought it would be the best for the Amateur Service. That's not the situation this time. This time, it's because the League filed a petition.

Q: Can a city inspector come in and tell an amateur that he is not allowed to have a station on a particular property?

A: Whoever owns the property would have authority. Under PRB-1, now in the rules, any regulation of it would have to be reasonable and not to prohibit Amateur Radio. The concerns that the city has for safety, etc. are to be balanced against the Government's concerns in the amateur station.

Q: Is it true that the International Amateur Radio Union can take away our frequencies?

A: No. The IARU is a union of Amateur Radio organizations throughout the world. The International Telecommunication Union (ITU), part of the United Nations, is preparing for a conference now that will deal with frequencies. The U.S. establishes a position through the State Department. [At this point, Johnston invited comment from an amateur who has worked with the government in preparing for ITU conferences.

He observed: "The ARRL has been the core of the amateur participation in ITU conferences. I suggest that you talk to your ARRL directors about it. It is my opinion that the ARRL could do considerably more than they have been doing in the past. They have increased their work in the last two years, but I still retain the opinion that they could do more than they have been doing."

Editor's note: The FCC has established an advisory committee to help in formulating the U.S. position on the forthcoming 1992 ITU World Administrative Radio Conference. ARRL participants in this committee include Executive VP ***Dave Sumner/K1ZZ*** and QST Editor ***Paul Rinaldo/W4RI.*** Details of the League WARC-92 preparations were published in the May 1990 issue of QST.]